

$$K_2 V_c \left( \frac{4d}{3D} \right)^2$$

NT must not be less than 0.30 GT.

**§ 69.65 Calculation of volumes.**

(a) Volumes  $V$  and  $V_c$  used in calculating gross and net tonnages, respectively, must be measured and calculated according to accepted naval architectural practices for the spaces concerned.

(b) The volume of the hull below the upper deck is determined as follows:

(1) If the number and location of sections originally used in making other calculations which relate to the form of the vessel (such as displacement volumes and center of buoyancy) are reasonably available, Simpson's first rule may be applied using those sections.

(2) If the number and location of stations originally used are not reasonably available or do not exist and the hull is of conventional design with faired lines, Simpson's first rule may be applied using a number and location of stations not less than those indicated in § 69.109(g)(1).

(3) If the hull is of standard geometric shape, a simple geometric formula that yields a more accurate volume may be used.

(4) If the lines of the hull are not fair, the volume may be measured by using a combination of methods under this section.

(c) The volume of structures above the upper deck may be measured by applying the superstructure provisions in § 69.113 or by any accepted method or combinations of methods.

(d) Measurements must be taken, regardless of the fitting of insulation or the like—

(1) To the inner side of the shell or structural boundary plating, in vessels constructed of metal; and

(2) To the outer surface of the shell or to the inner side of structural boundary surfaces, in all other vessels.

(e) When determining the volume of a cargo space, measurements must be taken without consideration for insulation, sparring, or ceiling fitted within the space.

(f) Measurements must be to the nearest one-twentieth of a foot.

(g) Calculations must be made on a worksheet and must be sufficiently detailed to permit easy review. The measurement procedures used must be identified on the worksheet.

**§ 69.67 Marking of cargo spaces.**

Cargo spaces used in determining volume ( $V_c$ ) for calculating net tonnage must be permanently marked with the letters "CC" (cargo compartment) which are at least four inches in height and positioned so as to be visible at all times.

**§ 69.69 Issuance of an International Tonnage Certificate (1969).**

On request of the vessel owner, an International Tonnage Certificate (1969) is issued for a vessel measured under this subpart that is 79 feet or more in registered length and that will engage on a foreign voyage. The Certificate is issued to the vessel owner or master and must be maintained on board the vessel when it is engaged on a foreign voyage.

**§ 69.71 Change of net tonnage.**

(a) When a vessel is altered so that the net tonnage is increased, the new net tonnage must be applied immediately.

(b) A vessel concurrently assigned load lines under both the International Convention on Load Lines (parts 42, 44, 45, or 47 of this chapter) and either the International Convention for the Safety of Life at Sea (SOLAS) (part 46 of this chapter) or other international agreement must be assigned only one net tonnage. The net tonnage assigned must be the net tonnage applicable to the load line assigned under the International Convention on Load Lines or SOLAS for the trade in which the vessel is engaged.

(c) When a vessel is altered so that the net tonnage is decreased or the vessel's trade is changed so that the load

line assigned for that trade under paragraph (b) of this section is no longer appropriate and results in a decrease in its net tonnage, a new International Tonnage Certificate (1969) incorporating that net tonnage may not be issued until twelve months after the date on which the current Certificate was issued. However, if one of the following apply, a new Certificate may be issued immediately:

- (1) The vessel is transferred to the flag of another nation.
- (2) The vessel undergoes alterations or modifications which the Coast Guard deems to be of a major character, such as the removal of a superstructure which requires an alteration of the assigned load line.

**§ 69.73 Variance from the prescribed method of measurement.**

(a) When application of this supart to a novel type vessel produces unreasonable or impractical results, the Commandant may determine a more suitable method of measurement.

(b) Requests for a determination must be submitted to the Commandant, explain the problem, and include plans and sketches of the spaces in question.

**§ 69.75 Figures.**

0=excluded space.

C=enclosed space.

I=space to be considered as an enclosed space.

B=breadth of deck in way of the opening.